BRUHAT BANGALORE MAHANAGARA PALIKE

Project: 2.Improvement to Roads and Drains in Agrahara, Agrahara Layout and Surrounding area in Ward No.05

Est Cost: =50.0Lakh

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desilt	Cum							
	Agrahara Layout								
	1st A Cross Road		1	120.00	0.50	0.40	24.00		
	2nd Cross Road		2	230.00	0.50	0.40	92.00		
	1st Cross Road		2	110.00	0.50	0.40	44.00		
	3rd Cross Road		2	200.00	0.50	0.40	80.00		
	4th Cross Road		2	125.00	0.50	0.40	50.00		
	5th Cross Road		2	115.00	0.50	0.40	46.00		
	6th Cross Road		2	95.00	0.50	0.40	38.00		
	CrossRoad		2	100.00	0.50	0.40	40.00		
							414.00	202.92	**84008.88**
	Basic rate	82.00							
	Loading and unloading with 15km lead= 68+2.50x1.28x15 = 116	116.00							
	Sub Total	198.00							
	Area Weightage 6%	4.92							
	Final Rate	**202.92**							
2	Removing and refixing stone slabs of drains and pointing in CM (1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2016-17)								
	Agrahara Layout	Sqm							
	1st A Cross Road		1	120.00	1.80		216.00		
	2nd Cross Road		2	230.00	1.80		828.00		
	1st Cross Road		2	110.00	1.80		396.00		
	3rd Cross Road		2	200.00	1.80		720.00		
	4th Cross Road		2	125.00	1.80		450.00		
	5th Cross Road		2	115.00	1.80		414.00		
	6th Cross Road		2	95.00	1.80		342.00		
	CrossRoad		2	100.00	1.80		360.00		
	Consider 30% For R&R						1117.80		
	Consider 20% for Damaged and Missing Slabs						-223.56		
							894.24	80.56	**72039.97**
	Basic rate	76.00							
	Area Weightage 6%	4.56							
	Final Rate	**80.56**							
3	Providing granite Slabs of Selected quality roughly dressed and fixed in cement mortor (1:6) including fixing curing etc,. Complete. 7.5cms thick (P.No.25, I.No.5.31.1 of PW, P&IWTD SR 2016-17)								
	For BS Slab Drain	Sqm							
	Consider 20% for Damaged and Missing Slabs						223.56		
							223.56	665.68	**148819.42**
	Basic rate	628.00							
	Area Weightage 6%	37.68							
	Final Rate	**665.68**							

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
4	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	Agrahara Layout								
	1st A Cross Road		1	120.00	5.95	0.25	178.50		
	2nd Cross Road		1	230.00	4.70	0.25	270.25		
	1st Cross Road		1	110.00	4.50	0.25	123.75		
	3rd Cross Road		1	200.00	4.80	0.25	240.00		
	4th Cross Road		1	125.00	4.60	0.25	143.75		
	5th Cross Road		1	115.00	4.30	0.25	123.63		
	6th Cross Road		1	95.00	4.70	0.25	111.63		
	CrossRoad		1	100.00	5.10	0.25	127.50		
							1319.00	164.76	**217318.44**
	Basic rate	46.00							
	Loading and unloading with 15km lead= 68+2.50x1.28x15 = 116	116.00							
	Sub Total	162.00							
	Area Weightage 6%	2.76							
	Final Rate	**164.76**							
5	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
		Cum							
	Agrahara Layout								
	1st A Cross Road		1	120.00	5.95	0.25	178.50		
	2nd Cross Road		1	230.00	4.70	0.25	270.25		
	1st Cross Road		1	110.00	4.50	0.25	123.75		
	3rd Cross Road		1	200.00	4.80	0.25	240.00		
	4th Cross Road		1	125.00	4.60	0.25	143.75		
	5th Cross Road		1	115.00	4.30	0.25	123.63		
	6th Cross Road		1	95.00	4.70	0.25	111.63		
	CrossRoad		1	100.00	5.10	0.25	127.50		
							1319.00	1768.08	**2332097.52**
	Basic rate	1668.00							
	Area Weightage 6%	100.08							
	Final Rate	**1768.08**							
6	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
		Sqm							
	Agrahara Layout								
	1st A Cross Road		1.00	120.00	5.95	--	714.00		
	2nd Cross Road		1.00	230.00	4.70	--	1081.00		
	1st Cross Road		1.00	110.00	4.50	--	495.00		
	3rd Cross Road		1.00	200.00	4.80	--	960.00		
	4th Cross Road		1.00	125.00	4.60	--	575.00		
	5th Cross Road		1.00	115.00	4.30	--	494.50		
	6th Cross Road		1.00	95.00	4.70	--	446.50		
	CrossRoad		1.00	100.00	5.10	--	510.00		
							5276.00	27.56	**145406.56**
	Basic rate	26.00							
	Area Weightage 6%	1.56							
	Final Rate	**27.56**							

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
7	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
	-	Sqm							
	For Laying BC								
	Agrahara Layout								
	1st A Cross Road		1	120.00	5.95	--	714.00		
	2nd Cross Road		1	230.00	4.70	--	1081.00		
	1st Cross Road		1	110.00	4.50	--	495.00		
	3rd Cross Road		1	200.00	4.80	--	960.00		
	4th Cross Road		1	125.00	4.60	--	575.00		
	5th Cross Road		1	115.00	4.30	--	494.50		
	6th Cross Road		1	95.00	4.70	--	446.50		
	CrossRoad		1	100.00	5.10	--	510.00		
							5276.00	12.72	**67110.72**
	Basic rate	12.00							
	Area Weightage 6%	0.72							
	Final Rate	**12.72**							
8	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	Agrahara Layout	Cum							
	1st A Cross Road		1	120.00	5.95	0.04	28.56		
	2nd Cross Road		1	230.00	4.70	0.04	43.24		
	1st Cross Road		1	110.00	4.50	0.04	19.80		
	3rd Cross Road		1	200.00	4.80	0.04	38.40		
	4th Cross Road		1	125.00	4.60	0.04	23.00		
	5th Cross Road		1	115.00	4.30	0.04	19.78		
	6th Cross Road		1	95.00	4.70	0.04	17.86		
	CrossRoad		1	100.00	5.10	0.04	20.40		
							211.04	**8118.54**	**1713336.68**
	Basic rate	7659.00							
	Area Weightage 6%	459.54							
	Final Rate	**8118.54**							

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
9	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
	Edge line	Sqm	2	1095.00	0.10	--	219.00		
							219.00	542.72	**118855.68**
	Basic rate	512.00							
	Area Weightage 6%	30.72							
	Final Rate	**542.72**							
11							**Total Construction Cost**		**4898993.871**
							Cost towards PMC / Third Party inspection LS		**97980.00**
13								**Sub Total**	**4996973.87**
							Miscellaneous and rounding off		**3026.13**
								Total	**5000000.00**

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Tejus Consultants

Assistant Engineer

Assistant Executive Engineer 16/5/2018

Executive Engineer

BRUHAT BANGALORE MAHANAGARA PALIKE

Project: 3.Improvement to Roads and Drains in Kogilu Layout and Surrounding area in Ward No.05

Est Cost: =50.0Lakh

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desilt	Cum							
	Kogilu Layout								
	1st main Parallel Road RHS		1	480.00	0.50	0.40	96.00		
	1st main Parallel Road LHS		1	170.00	0.50	0.40	34.00		
	5th main Road		2	190.00	0.50	0.40	76.00		
	4th Main Road		2	140.00	0.50	0.40	56.00		
	3rd Main Road RHS (LHS-20)		1	110.00	0.50	0.40	22.00		
	2nd main Road (Masjid Allahu akbar Road)		1	75.00	0.50	0.40	15.00		
	Anganavadi Road		2	50.00	0.50	0.40	20.00		
	New Drain								
	1st main Pareallel Road LHS		1	315.00	0.70	0.60	132.30		
	3rd Main Road LHS		1	70.00	0.70	0.60	29.40		
	7th A Cross Road		2	45.00	0.70	0.60	37.80		
	7th B Cross Road		2	45.00	0.70	0.60	37.80		
	over burden earth								
			1	10.00	1.00	0.80	8.00		
			1	3.00	1.50	0.60	2.70		
			1	5.00	1.80	0.40	3.60		
							570.60	202.92	**115786.15**
	Basic rate	82.00							
	Loading and unloading with 15km lead= 68+2.50x1.28x15 = 116	116.00							
	Sub Total	198.00							
	Area Weightage 6%	4.92							
	Final Rate	**202.92**							
2	Removing and refixing stone slabs of drains and pointing in CM (1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2016-17)								
	Kogilu Layout	Sqm							
	1st main Parallel Road RHS		1	480.00	1.80		864.00		
	5th main Road		2	190.00	1.80		684.00		
	4th Main Road		2	140.00	1.80		504.00		
	3rd Main Road RHS (LHS-20)		1	110.00	1.80		198.00		
	2nd main Road (Masjid Allahu akbar Road)		1	75.00	1.80		135.00		
	Anganavadi Road		2	50.00	1.80		180.00		
	Consider 20% For R&R						513.00		
	Consider 20% for Damaged and Missing Slabs						-102.60		
							410.40	80.56	**33061.82**
	Basic rate	76.00							
	Area Weightage 6%	4.56							
	Final Rate	**80.56**							
3	Providing granite Slabs of Selected quality roughly dressed and fixed in cement mortor (1:6) including fixing curing etc,. Complete. 7.5cms thick (P.No.25, I.No.5.31.1 of PW, P&IWTD SR 2016-17)								
	For BS Slab Drain	Sqm							
	Consider 20% for Damaged and Missing Slabs						102.60		
	New Drain								
	1st main Pareallel Road LHS		1.00	315.00	1.80		567.00		

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
	3rd Main Road LHS		1.00	70.00	1.80		126.00		
	7th A Cross Road		2.00	45.00	1.80		162.00		
	7th B Cross Road		2.00	45.00	1.80		162.00		
							1119.60	665.68	**745295.33**
	Basic rate	628.00							
	Area Weightage 6%	37.68							
	Final Rate	**665.68**							
4	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	Kogilu Layout								
	1st main Parallel Road		1	480.00	3.80	0.25	456.00		
	5th main Road		1	190.00	4.70	0.25	223.25		
	4th Main Road		1	140.00	3.70	0.25	129.50		
	3rd Main Road		1	90.00	4.30	0.25	96.75		
	2nd main Road (Masjid Allahu akbar Road)		1	75.00	4.50	0.25	84.38		
	Anganavadi Road		1	50.00	4.30	0.25	53.75		
	7th A Cross Road		1	15.00	1.00	0.20	3.00		
	7th B Cross Road		1	25.00	1.20	0.20	6.00		
							1052.63	164.76	**173430.50**
	Basic rate	46.00							
	Loading and unloading with 15km lead= 68+2.50x1.28x15 = 116	116.00							
	Sub Total	162.00							
	Area Weightage 6%	2.76							
	Final Rate	**164.76**							
5	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
		Cum							
	Kogilu Layout								
	1st main Parallel Road		1	480.00	3.80	0.25	456.00		
	5th main Road		1	190.00	4.70	0.25	223.25		
	4th Main Road		1	140.00	3.70	0.25	129.50		
	3rd Main Road		1	90.00	4.30	0.25	96.75		
	2nd main Road (Masjid Allahu akbar Road)		1	75.00	4.50	0.25	84.38		
	Anganavadi Road		1	50.00	4.30	0.25	53.75		
							1043.63	1768.08	**1845212.49**
	Basic rate	1668.00							
	Area Weightage 6%	100.08							
	Final Rate	**1768.08**							
6	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
		Sqm							
	Kogilu Layout								
	1st main Parallel Road		1.00	480.00	3.80	--	1824.00		
	5th main Road		1.00	190.00	4.70	--	893.00		
	4th Main Road		1.00	140.00	3.70	--	518.00		
	3rd Main Road		1.00	90.00	4.30	--	387.00		

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
	2nd main Road (Masjid Allahu akbar Road)		1.00	75.00	4.50	--	337.50		
	Anganavadi Road		1.00	50.00	4.30	--	215.00		
							4174.50	27.56	**115049.22**
	Basic rate	26.00							
	Area Weightage 6%	1.56							
	Final Rate	**27.56**							
7	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
		Sqm							
	For Laying BC								
	Kogilu Layout								
	1st main Parallel Road		1	480.00	3.80	--	1824.00		
	5th main Road		1	190.00	4.70	--	893.00		
	4th Main Road		1	140.00	3.70	--	518.00		
	3rd Main Road		1	90.00	4.30	--	387.00		
	2nd main Road (Masjid Allahu akbar Road)		1	75.00	4.50	--	337.50		
	Anganavadi Road		1	50.00	4.30	--	215.00		
							4174.50	12.72	**53099.64**
	Basic rate	12.00							
	Area Weightage 6%	0.72							
	Final Rate	**12.72**							
8	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	Kogilu Layout	Cum							
	1st main Parallel Road		1	480.00	3.80	0.04	72.96		
	5th main Road		1	190.00	4.70	0.04	35.72		
	4th Main Road		1	140.00	3.70	0.04	20.72		
	3rd Main Road		1	90.00	4.30	0.04	15.48		
	2nd main Road (Masjid Allahu akbar Road)		1	75.00	4.50	0.04	13.50		
	Anganavadi Road		1	50.00	4.30	0.04	8.60		
							166.98	8118.54	**1355633.81**
	Basic rate (issue Rate)	7659.00							
	Area Weightage 6%	459.54							
	Final Rate	**8118.54**							
9	KSRB 4-1.2: Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.892 cum and fine aggregates @ 0.465 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.2 of PW,P&IWTD S.R 2016-17)								
	Bed Concrete	Cum							
	Kogilu Layout								
	7th A Cross Road		1.00	15.00	1.00	0.10	1.50		
	7th B Cross Road		1.00	25.00	1.20	0.10	3.00		
							4.50	5348.76	**24069.42**
	Basic rate	5046.00							
	Area Weightage 6%	302.76							
	Final Rate	**5348.76**							

(15)

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
10	Cement concrete pavement.Construction of un-reinforced plain cement concrete pavement, thickness as per design, over a prepared sub base with OPC cement or any other type as per clause 1051.2.2 design mix M20/M30 , with 25mm and down size graded granite metal coarse aggregates and fine aggregtes , with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008 , mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints including groove cutting charges, joint filler, separation membrane, selant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades as per drawing complete as per specifications. - M30 (at 360Kg per cum coarse aggregate @ 0.69cum and fine aggregate @ 0.46cum) ((P.No.177, I.No.22.6.1 of PW,P&IWTD SR 2016-17)								
	Road Portion	Cum							
	Kogilu Layout		1.00	45.00	5.60	0.10	25.20		
	7th A Cross Road		1.00	45.00	4.50	0.10	20.25		
	7th B Cross Road						**45.45**	6217.96	**282606.28**
	Basic rate	5866.00							
	Area Weightage 6%	351.96							
	Final Rate	**6217.96**							
11	Vaccum de-watering with vaccum pump and suction mat and compaction with skin floater clubbed with floating disc including cost of generator, HOM of machinery, Screed Vibratory, Power Floater, blade and disc etc., with all lead and lift.(P.No.177, I.No.22.7 of PW, P&IWTD SR 2016-17)								
	Kogilu Layout	Sqm	1.00	45.00	5.60	--	252.00		
	7th A Cross Road		1.00	45.00	4.50	--	202.50		
	7th B Cross Road						**454.50**	95.40	**43359.30**
	Basic rate	90.00							
	Area Weightage 6%	5.40							
	Final Rate	**95.40**							

(14)

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
12	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
	Edge line	Sqm	2	1025.00	0.10	--	205.00		
							205.00	542.72	**111257.60**
	Basic rate	512.00							
	Area Weightage 6%	30.72							
	Final Rate	**542.72**							
							Total Construction Cost		**4897861.558**
13							**Cost towards PMC / Third Party inspection LS**		**97958.00**
								Sub Total	**4995819.56**
14							**Miscellaneous and rounding off**		**4180.44**
								Total	**5000000.00**

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Tejus Consultants

Assistant Engineer — Assistant Executive Engineer 16/5/18 — Executive Engineer 16/6/18

BRUHAT BANGALORE MAHANAGARA PALIKE

Project: 4.Improvement to Roads and Drains at Tirumenahalli and Surrounding area in Ward No.05

Est Cost: =40.0Lakh

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desc	Cum							
	Tirumenahalli								
	1st Cross Road		1	150.00	0.50	0.40	30.00		
	1st main Road		2	200.00	0.50	0.40	80.00		
	2nd Cross Road		2	174.00	0.50	0.40	69.60		
	2nd Main Road		2	200.00	0.50	0.40	80.00		
	3rd Cross Road		2	125.00	0.50	0.40	50.00		
							309.60	202.92	**62824.03**
	Basic rate	82.00							
	Loading and unloading with 15km lead= (82+2.50x1.28x15 = 116	116.00							
	Sub Total	198.00							
	Add Weightage 6%	4.92							
	Final Rate	**202.92**							
2	Removing and refixing stone slabs of drains and pointing in CM (1:3) (P.No.25, I.No.5.33 of PW, P&IWTD SR 2016-17)								
	Tirumenahalli	Sqm							
	1st Cross Road		1	150.00	1.80		270.00		
	1st main Road		2	200.00	1.80		720.00		
	2nd Cross Road		2	174.00	1.80		626.40		
	2nd Main Road		2	200.00	1.80		720.00		
	3rd Cross Road		2	125.00	1.80		450.00		
							835.92		
	Consider 30% For R&R						-167.18		
	Consider 20% for Damaged and Missing Slabs						**668.74**	80.56	**53873.37**
	Basic rate	76.00							
	Add Weightage 6%	4.56							
	Final Rate	**80.56**							
3	Providing granite Slabs of Selected quality roughly dressed and fixed in cement mortor (1:6) including cutting etc,. Complete, 7.5cms thick (P.No.25, I.No.5.31.1 of PW, P&IWTD SR 2016-17)								
	Tirumenahalli SS Slab Drain	Sqm					167.18		
	Consider 20% for Damaged and Missing								
							167.18	665.68	**111291.05**
	Basic rate	628.00							
	Add Weightage 6%	37.68							
	Final Rate	**665.68**							
4	KSRRB M300-14. Excavation for Roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity, including cutting and loading in tippers, trimming bottom and side slopes, in accordance with the alignments of lines, grades and cross sections, and transporting to embankment location and disposal as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD SR 2016-17)								
	Description	Cum							
	Tirumenahalli								
	1st Cross Road		1	150.00	5.00	0.25	187.50		
	1st Main Road		1	200.00	5.00	0.25	250.00		
	2nd Cross Road		1	174.00	5.00	0.25	217.50		

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Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
	Main Road		1	200.00	5.00	0.25	250.00		
	Cross Road		1	125.00	5.00	0.25	156.25		
							1061.25	164.76	**174851.55**
	Basic rate	46.00							
	Loading and unloading with 15km lead = 2.50x1.28x15 = 116	116.00							
	Sub Total	162.00							
	Area Weightage 6%	2.76							
	Total Rate	164.76							
5	MORTH 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix specification including premixing the Material with water at OMC in mechaniqal mix plant transport of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired work complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
		Cum							
	Kathalli								
	Cross Road		1	150.00	5.00	0.25	187.50		
	Road		1	200.00	5.00	0.25	250.00		
	Cross Road		1	174.00	5.00	0.25	217.50		
	Road		1	200.00	5.00	0.25	250.00		
	Road		1	125.00	5.00	0.25	156.25		
							1061.25	1768.08	**1876374.90**
		1668.00							
	Weightage 6%	100.08							
		1768.08							
6	MORTH 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.90 kg/sqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
		Sqm							
			1.00	150.00	5.00	--	750.00		
	Road		1.00	200.00	5.00	--	1000.00		
	Road		1.00	174.00	5.00	--	870.00		
	Road		1.00	200.00	5.00	--	1000.00		
	Road		1.00	125.00	5.00	--	625.00		
							4245.00	27.56	**116992.20**
		26.00							
	Weightage 6%	1.56							
		27.56							
7	MORTH 500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding road surface) including cost of all materials, labour, HOM of machineries complete as per MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
		Sqm							
	BC								
	Road		1	150.00	5.00	--	750.00		
			1	200.00	5.00	--	1000.00		
			1	174.00	5.00	--	870.00		
			1	200.00	5.00	--	1000.00		
			1	125.00	5.00	--	625.00		
							4245.00	12.72	**53996.40**
		12.00							
	Weightage 6%	0.72							
		12.72							

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Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
3	5.4% of mix and filler, transporting the hot mix to work site, laying with a paver finisher to the required grade, level and alignment, rolling with smooth wheeled, and tandem rollers to achieve the desired compaction as per MoRT&H specification clause complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of	Cum							
			1	150.00	5.00	0.04	30.00		
			1	200.00	5.00	0.04	40.00		
			1	174.00	5.00	0.04	34.80		
			1	200.00	5.00	0.04	40.00		
			1	125.00	5.00	0.04	25.00		
							169.80	**8118.54**	**1378528.09**
		7659.00							
	ve 6%	459.54							
		8118.54							

BRUHAT BANGALORE MAHANAGARA PALIKE

Project: 5.Improvement to Roads and Drains from Jakkur Double Road to Jakkur Village Surrounding area in Ward No.05

Est Cost: =30.0Lakh

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
1	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	Jakkur Connecting Road								
	Ch 0-584		1	584.00	5.80	0.25	846.80		
							846.80	164.76	**139518.77**
	Basic rate	46.00							
	Loading and unloading with 15km lead= 68+2.50x1.28x15 = 116	116.00							
	Sub Total	162.00							
	Area Weightage 6%	2.76							
	Final Rate	**164.76**							
2	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
		Cum							
	Jakkur Connecting Road								
	Ch 0-584		1	584.00	5.80	0.25	846.80		
							846.80	1768.08	**1497210.14**
	Basic rate	1668.00							
	Area Weightage 6%	100.08							
	Final Rate	**1768.08**							
3	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
		Sqm							
	Jakkur Connecting Road								
	Ch 0-584		1.00	584.00	5.80	--	3387.20		
							3387.20	27.56	**93351.23**
	Basic rate	26.00							
	Area Weightage 6%	1.56							
	Final Rate	**27.56**							
4	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
		Sqm							
	For Laying BC								
	Jakkur Connecting Road								
	Ch 0-584		1	584.00	5.80	--	3387.20		
							3387.20	12.72	**43085.18**
	Basic rate	12.00							

(9)

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
9	8.3.8 (i) MoRTH-5300-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including retroreflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface, applied glass beads as per IRC:35. The finished surface to be level, uniform and free from air pocket and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, Item No.24 of PW,P&IWTD SR 2016-17)								
		Sqm	2	849.00	0.10	--	169.80		
							169.80	542.72	**92153.86**
		512.00							
	Add 7 % charge 6%	30.72							
		542.72							
11								**Total Construction Cost**	**3920885.445**
								Cost towards PMC / Third Party inspection LS	**78418.00**
13								**Sub Total**	**3999303.45**
								Miscellaneous and rounding off	**696.55**
								Total	**4000000.00**

Certificate:

1. Rate is adopted based on the PWD SR, Bangalore circle for year 2016-17.
2. Variations made in the estimate are necessary and essential.
3. The work was inspected and work is found to be necessary.
4. The work comes within the Bruhat Bangalore Mahanagara Palike limits.

Assistant Executive Engineer

Executive Engineer 7.18/6/18

(6)

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
	Area Weightage 6%	0.72							
	Final Rate	**12.72**							
5	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	Jakkur Connecting Road	Cum							
	Ch 0-584		1	584.00	5.80	0.04	135.49		
							135.49	8118.54	**1099964.75**
	Basic rate (issue Rate)	7659.00							
	Area Weightage 6%	459.54							
	Final Rate	**8118.54**							
6	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
	Edge line	Sqm	2	584.00	0.10	--	116.80		
							116.80	542.72	**63389.70**
	Basic rate	512.00							
	Area Weightage 6%	30.72							
	Final Rate	**542.72**							
							Total Construction Cost		**2936519.770**
7							**Cost towards PMC / Third Party inspection LS**		**58731.00**
								Sub Total	**2995250.77**
8							**Miscellaneous and rounding off**		**4749.23**
								Total	**3000000.00**

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Tejus Consultants

Assistant Engineer

Assistant Executive Engineer 16/5/18

Executive Engineer 18/5/18